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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,487	07/01/2003	Jerry A. Krill	1717-SPL	3320

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THE JOHNS HOPKINS UNIVERSITYAPPLIED PHYSICS LABORA
OFFICE OF PATENT COUNSEL
11100 JOHNS HOPKINS ROAD
MAIL STOP 7-156
LAUREL, MD 20723-6099

EXAMINER	
DIEP, NHON THANH	
ART UNIT	**PAPER NUMBER**
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/611,487	KRILL, JERRY A.	
	Examiner	Art Unit	
	Nhon T. Diep	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/1/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 8-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al (US 5,722,042).

Kimura et al discloses a satellite communication system comprising the same system for providing real-time image control and processing for use in wide area space based surveillance utilizing an Optical Tera-bps Satellite (OPTSAT) network, including a plurality of OPTSATs (optical inter satellite links), the system comprising:

at least one surveillance aperture operatively linked to at least one of the plurality of OPTSATs for imaging an object (fig. 13 and fig. 1, el. 111-112-113-121-122-123);

at least one image processor for processing optical image data obtained by the at least one surveillance aperture (fig. 12); and at least one terminal capable of wirelessly transceiving information between the at least one terminal and the at least one of the plurality of OPTSATs (fig. 1, el 33) as specified in claim 1 and displaying an image of the object in at least one terminal (output of el. 715 of fig. 11) as specified in claims 12 and 18; wherein the at least one surveillance aperture is connected to a multiple beam optical array transceiver (fig. 13 and fig. 1, el. 111-112-113-121-122-123) as specified in claims 2 and 13; wherein the at least one image processor is included in

at least one of the plurality of OPTSATs (fig. 13 and fig. 1, el. 111-112-113-121-122-123) as specified in claims 8 and 14; wherein the at least one image processor is located in a ground based image processing center; wherein the at least one image processor is included in the at least one terminal; wherein the at least one terminal includes a display for displaying an image of the object (fig. 1, el. 33 , 34 ad fig. 11) as specified in claims 9-11, 16-17 and 19-22.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al (US 5,722,042), in view of Margalit et al (US 6,944,403) and Dawnson et al (US 5,416,623).

As applied to claim 2 above, it is noted that Kimura et al further discloses further comprising at least one receive amplifier for amplifying received optical signals; and at least one transmit amplifier for amplifying optical signals prior to transmission when utilizing a LADAR (col. 9, ln. 43-48 and col. 15, ln. 11-17) as specified in claim 4. However, Kimura et al does not particularly disclose wherein the multiple beam optical array transceiver comprises:

at least one micro-electronic mechanical (MEM) mirror for reflecting free-space optical signals;

at least one bi-directional optical coupler connected to the receive amplifier, and associated with the MEM mirror, for receiving from the connected amplifier an optical signal, and reflecting a free-space optical signal onto and receiving a reflected free-space optical signal from the associated MEM mirror; and a controller for controlling the aiming of the MEM mirror as specified in claim 3. Margalit et al discloses an apparatus for free space optical communication (figs. 8 and 1) comprising at least one receive amplifier and at least one transmit amplifier (fig. 8, amplifier 130); at least one micro-electronic mechanical (MEM) mirror (fig. 1, MEM 30) for reflecting free-space optical signals, the system inherently comprises a controller for controlling the MEM. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate amplifiers and MEM, as it is taught by Margalit et al, in the system of Kimura et al in order to transmit information over free-space. Further more, Dawson et al discloses to use a bi-directional coupler (fig. 1, coupler 5) in an optical communication apparatus. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a bi-direction coupler, as it is disclosed by Dawson et al, in the modified system of Kimura et al and Margalit et al in order to reduce use only one MEMS for both transmitting and receiving optical signal.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al (US 5,722,042), in view of Tsushima et al (US 5,600,466).

As applied to claim 2 above, it is noted that Kimura et al further discloses further comprising at least one receive amplifier for amplifying received optical signals; and

at least one transmit amplifier for amplifying optical signals prior to transmission when utilizing a LADAR (col. 9, ln. 43-48 and col. 15, ln. 11-17) as specified in claim 6. However, Kimura et al does not particularly disclose wherein the multiple beam optical array transceiver comprises:

at least one bi-directional optical switch bank having a bi-directional fiber optic input and a plurality of bi-directional fiber optic outputs;

at least one bi-directional optical coupler connected to the receive amplifier, and having a bi-directional port for communicating with the input of the switch bank; and

a controller for controlling the switch bank as specified in claim 5. Tsushima et al teaches an optical switch bank, which has k inputs and three groups of k outputs and optical coupler (figs. 2b, el. 20 and 5b and col. 15, ln. 46-54). And, therefore, it would have been obvious to on of ordinary skilled in the art at the time the invention was made to modify the system of Kimura et al by using optical switch bank as taught by Tsushima et al. Doing so would help to speedily rout the optical signals.

Regarding to claim 7: It is submitted that the combination of Kimura et al Tsushima et al would result in a system wherein signal from one of the surveillance system would be transmitted to any of the ground based receiving system.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Walker et al (US 2003/0221118 A1) discloses an automatic accounting system that values, controls, records and bills the uses of equipment/vehicles for society.

b. Noddings et al (US 2003/0053770 A1) discloses fabrication of optical devices and assemblies.

c. Ander son et al (UD 7,021,836) discloses an attenuator and conditioner.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

N.D. 1/4/07